

Claims

1. Method for adapting link weights (LK) in a communication network formed with links (L) for an optimized traffic distribution within the communication network in respect of a traffic volume (VM) expected for the communication network and in relation to a parameter (V (L)) relating to the link usage, as a result of which

with the aid of a computer

a) the links (L) of the communication network are assigned

10 start values for the link weights (LK),

b) on the basis of the link weights (LK) paths (P(LK)) for routing of traffic within the communication network will be calculated,

c) the values of the parameter (V(L)) for the individual links (L) are determined by means of the calculated paths (P(L)) and the expected traffic volume (VM),

d) the link (L(Vmax,n)), for which the parameter (V(L)) has the highest value (Vmax,n) is determined,

e) the link weight (LK(L(Vmax,n))) for the link (L(Vmax,n))

20 determined will be increased and

f) steps b), c), d) and e) are repeated until the value

(Vmax,n) of the parameter (V(L)) for the link (L(Vmax,n)) with the highest parameter value (Vmax,n) determined in step d) is higher than the parameter value (Vmax,n-1) for the link with 25 the highest parameter value in the previous step d).

2. Method in accordance with claim 1,

characterized in that

the parameter (V(L)) is produced by the absolute traffic load,

the relative traffic load related to link bandwidth, traffic-

30 related costs arising for using the link, the link

availability, the delay time of the relevant link or the load capabilities of the end node of the relevant link.

3. Method in accordance with claim 1 or 2,  
characterized in that  
the start values for the link weights (LK) are selected to be  
the same for all links (L).

5 4. Method in accordance with one of the previous claims.  
characterized in that  
the paths (P(LK)) are calculated by means of the OSPF (open  
shortest path first) protocol or the IS-IS (Intermediate System  
- Intermediate System) protocol.

10 5. Method in accordance with one of the previous claims.  
characterized in that  
the paths calculated if the abort criterion f) is fulfilled are  
used for routing within the framework of the ECMP (Equal Cost  
Multi Path) concept.

15 6. Method in accordance with one of the previous claims,  
characterized in that  
the link weights (LK) and their increase are always expressed  
by whole numbers.

7. Method in accordance with one of the previous claims.  
20 characterized in that  
the link weight (LK(L(Vmax,n))) is increased for both directions  
of transmission of the link for the link determined  
(L(Vmax,n)).

8. Method in accordance with one of the previous claims.  
25 characterized in that  
the expected traffic volume (VM) is described by means of the  
traffic matrix.